

Joint Non Lethal Weapons Program News

Volume 2, Issue 2 February 1999



Colonel George Fenton Assumes Leadership of JNLWD Directorate



To All,

I'd like to take this opportunity to congratulate Col Andrew Mazzara on his retirement from 27 years of service to the USMC and his country and to commend him for the "kick start" he provided to the Joint Non-Lethal Weapons Program. His leadership skills were instrumental in facilitating Service Operational Requirements Documents for the near term Joint acquisition programs. I have some big shoes to fill.

I have begun my orientation of the funded programs and have made trips to Fort Benning, Picatinny Arsenal, Brooks Air Force Base and the Naval Surface Warfare Center at Dahlgren. I am planning on future trips to Adelphi, Maryland, Lackland AFB, Aberdeen Proving Grounds, Kirtland AFB, the L.A. County Sheriff's Department and Fort Monroe. I appreciate the briefings and presentations provided during those reviews.

We will be hosting the Spring directors reviews in Feb and Mar 99 at various locations and I

look forward to meeting you. If we can be of assistance don't hesitate to contact us.

SASC Presentation



The Joint Non Lethal Weapons Directorate (JNLWD) participated at a static display to the Senate Armed Services Committee on January 5th. This event provided the Directorate with a great opportunity to showcase The Joint Non-lethal Weapons Program to Senate members and professional staffers. Key staffers from the SASC visited the display, as well as the program's Executive Agent, Marine Corps Commandant, General C.C. Krulak. The JNLWD display included the Small Unit Leader Non-Lethal Trainer (SULNT), Modular Crowd Control Munition (MCCM), 40 mm Crowd Dispersal Cartridge (CDC), 66 mm Vehicle Launched Non Lethal Grenade (NL VLG), Non-Lethal Rigid Foam (NLRF), and the USMC Capabilities Set. The Directorate will provide a similar presentation to the House Armed Services Committee in the near future.

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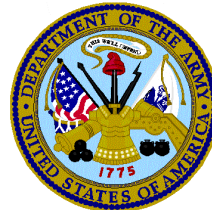
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Security Classification Guide (SCG) Status

Under the direction of the JNLWD and in coordination with the JPO-STC, Booz Allen & Hamilton is developing a Joint Non-Lethal Weapons Program Security Classification Guide that will provide policy and guidance, and uniform criteria for the security classification of information on DoD NLWs. This effort includes Research, Development, Test and Evaluation (RDT&E), application, production and operations concerning a program's susceptibility and weaponization efforts and their applications for military purposes. Annexes on specific technologies include: Mechanical, Electromagnetic, Acoustic, Chemical / Biological and Lasers. A "for comment draft" will be released in Apr 99, with a final planned for signature in Jun 99. This will be a living document, updated continually by new development efforts funded by the JNLWP.



USA MilDep Briefing Results

On 1 Dec 98, Colonel Gary Payne (USA), Commander, Close Combat Armaments Center (CCAC) at Picatinny Arsenal, New Jersey, briefed Lieutenant General Paul Kern (USA), the Assistant Secretary of the Army for Research Development and Acquisition (ASARDA) on the status of the US Army's NLW development efforts. This briefing is given semi-annually to ASARDA. Lieutenant General Kern's recommendations were:

- Include NLWs in the MOUT ACTD and the Light Force ATD
- Push for type classification (formal acquisition programs) vice rapid development/fielding
- Improve the Modeling and Simulation of NLWs
- Study the Psychological and physiological effects of NLWs
- Initiate a more formal review of DOD, law enforcement and international efforts.
- Disseminate more information on NLWs focusing on the upcoming Joint Urban Warfare Advanced Technical Demonstration.

The next review is scheduled for April 23 and is envisioned to return to a two-part NLW briefing, with Col Payne providing the status of the USA NLW programs and Col Fenton providing the status of the remaining Joint Service programs.

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Non Lethal Rigid Foam Milestone I Decision

On 14 Jan 99, Mr. Larry Kreitzer, the Milestone Decision Authority from Marine Corps Systems Command at Quantico, VA, approved the Non-Lethal Rigid Foam (NLRF) program to proceed into the Program Definition/Risk Reduction Phase of the Joint Service Acquisition Program. The US Army is an acquisition participating service.

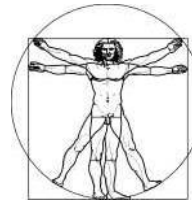
Congratulations to LtCol Mose Floyd (USMC), Major Chuck O'Donnell (USMC) and the entire NLRF development team! The NLRF program will develop a capability to temporarily delay access to building openings in MOUT environments and/or temporarily disable selected equipment, vehicles and weapons. In addition, it may be used to secure razor wire or caltrops to the ground and to disable power grids/phone switches. This effort will also field a dispensing system that will either be handheld or shoulder slung. A production decision is expected in 1st Quarter, FY02.



MCCM Milestone I/II Decision

On 16 Nov 98, Col (P) John Urias, the Milestone Decision Authority from TACOM/ARDEC at Fort Monmouth, New Jersey, approved the Modular Crowd Control Munition (MCCM) Ground Emplaced (GE) version to proceed into the Engineering and Manufacturing Development phase. He also approved the MCCM Vehicle Mount System (VMS) to proceed into the Program Definition/Risk Reduction phase of the Joint Service acquisition program. The USMC is a participating acquisition service. *Congratulations to Dave Millette and the Joint Service MCCM development team on their accomplishments!*

The MCCM is a non-lethal variant of the Claymore mine containing 600 rubber ball blunt impact munitions. The MCCM GE version will be used for perimeter defense and the MCCM VMS will be mounted on HMMWV and 5 ton trucks to disperse hostile crowds and to protect equipment/facilities. A production decision is planned for 4th quarter FY00.



Human Effects Working Group Meets

The JNLWD hosted a Human Effects Working Group at Quantico on 14-15 December. Meeting objectives included: information exchange with respect to various on-going activities to quantify the effects of the kinetic (blunt impact) munitions; and identification and understanding of the process used by the lead service in assessing "non-lethality" for these items. The two day meeting provided for an excellent information exchange among the participants with the conclusion reached that additional work needs to be done in the formalization of the non-lethality quantification process.

TIP Solicitation Completed

The final selections for the Technology Investment Program have been made. Eighty-three white papers were received from the initial BAA solicitation released on May 8th, 1998. The Technology Investment Program (TIP) Panel selected sixteen of these white papers as worthy of consideration as full detailed proposals. The TIP Panel then reviewed these proposals and selected two for funding; the Pulsed Chemical Laser and the Non-Lethal 81mm Mortar Round. These two efforts were described in the last newsletter. Six other efforts have since been selected for funding based on both the prioritization of the TIP Panel and the Director's discretionary authority. The six additional efforts are described below:

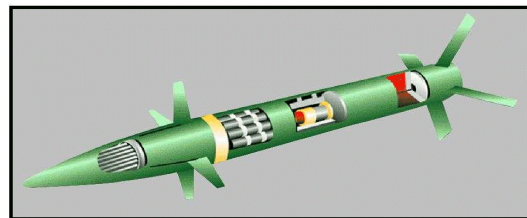


Overhead Chemical Agent Dispersion System (OCADS) - This proposal offers the U.S. military the ability to rapidly disperse non-lethal chemical agents over large areas. The dispersed agents can be used for crowd control or to provide a remotely generated protective barrier. The OCADS technology is readily adaptable to a wide range of munition sizes ranging from hand held (i.e., M203 grenade launchers) to mortars. For the purpose of the OCADS technical demonstration program, PRIMEX has selected a mortar-based approach. The system is sized to be compatible with the M871A1 Volcano Tube Launcher System but can be easily deployed from

individual launcher tubes or the CLADS systems already under development for the Non-Lethal Weapons Program. This proposal is for a short 9-month effort that is broken up into two basic tasks. Task 1 is to test and optimize the effectiveness of the inner bladder to disperse the liquid chemical uniformly. The second major task involves developing the test and launch system and conducting a demonstration.



Frangible 120mm Mortar Round – This effort will investigate the potential for molded felted fiber to be used as a frangible casing material. Several different candidate materials will be considered, and the final result will be static laboratory tests to determine the structural integrity of a mortar shell to both axial and hoop stress. If the material appears to be a good candidate, then additional work may be considered.



Extended Range Guided Munition (ERGM) – This proposal is for a feasibility study for using guided-projectile technology to provide a standoff capability of deploying non-lethal weapons. The approach will consist of four subtask activities. The first task is to meet with the military users to better understand the concept of employment for a non-lethal ERGM

round and what some of the missions and users needs/requirements are. The second task is to then analyze the mission and evaluate payload alternatives by looking at environmental constraints, packaging options, and effectiveness issues. This task will result in a general concept of operations for a non-lethal ERGM. Task three will analyze the top-level functions to determine the functional characteristics of the round itself. Task four will define the envelope in which the system operates and address the system level performance. The final result from this feasibility study will be a comprehensive report which addresses the customer requirements, a notional System Concept of Operations, and a System Description in terms of functions, performance & interfaces; a proposed system configuration and unique provisioning requirements will be provided for each candidate payload. The final report will include an appendix that contains the payload vendor survey responses.

Airborne Tactical Laser (ATL)



This project is for conducting a feasibility study to assess capabilities for an Airborne Tactical Laser to conduct non-lethal warfare. This effort consists of four basic tasks:

- Functional Requirements Derivation – This task will survey the military community to determine the concepts and requirements that relate to an

airborne tactical laser for non-lethal applications.

- System Effectiveness Evaluation – This task will assess the capability of the ATL to conduct non-lethal missions within a set of defined scenarios and operational environments that were developed during the above task.
- Development Roadmap – assess those areas that need to be developed to make an ATL a reality as a non-lethal weapon.
- Engagement Simulation (Option) – This will be a computer simulation of an ATL being used for a non-lethal mission. The deliverables are monthly status and financial progress reports, briefings as required by the JNWLD and a final report.

Delivery of Chemicals by Microcapsules

– This project will investigate the potential for microcapsules to be used for delivery of non-lethal chemicals. This effort will take place in two phases: Phase I will be a concept analysis where a quick review of this technology will be conducted along with the generation of possible applications. Phase II is contingent upon a successful completion of Phase I, and will be a proof of concept where several different non-lethal chemicals will be encapsulated and some delivery experiments will be conducted.

Non Lethal Taser Anti-Personnel Munition

– This effort, although selected via the Tip process, will be conducted under the Non Lethal Area Denial Study. This project's goal is to successfully demonstrate and develop a production concept for a non-lethal Taser anti personnel munition

OTHER NEWS

NEW WEBSITE LOCATION: The Joint Non Lethal Weapons Program Website has been moved. The new site is <http://www.usmc.mil/nlw> (It is best viewed using Internet Explorer or Netscape 4.0 or newer.)

NEWSLETTERS ON THE WEB: This and future newsletters will be posted on the JNLW website.

DATABASE VERSION 1.1: Version 1.1 of the Joint Non Lethal Weapons Database has been finished. The CD-ROM is available for distribution. The organizational portion of the database has been completely updated and a significant number of new documents, pictures and videos have been added. Some discs have been distributed already to save time and money. If you are on the distribution list and don't receive your copy by 1 March, contact andersond@quantico.usmc.mil.



Major General Howard, Deputy Commanding General, Marine Corps Combat Development Command, presents Col Andy Mazzara with the Defense Superior Service Medal for his service as the first Director of the Joint Non Lethal Weapons Program.

Joint Concepts Integration Group (JCIG) and IPT to Meet

The JCIG will meet on April 14th to receive an overall program update, review the updated FY00 program plan, and review the results of the National Policy Study. The IPT will meet on May 14 to review these topics as well.

Spring FY99 Director's Reviews

The Director of the Joint Non Lethal Weapons Directorate will conduct reviews of the following programs at the stated time and locations. If you have a question regarding the schedule or to ensure the information you have is current, please contact swensonk@quantico.usmc.mil.

Project	Date & Time	Location
Dismounted Battlespace Battle Lab (DBBL)	11 Feb 99, 0900-1100	Lackland AFB, San Antonio, TX
Marine Corps Warfighting Lab (MCWL)	11 Feb 99, 1300-1500	Lackland AFB, San Antonio, TX
Active Denial Technology (ADT)	12 Feb 99, 0900-1100	Brooks AFB, San Antonio, TX
Joint Conflict and Tactical Simulation (JCATS)	24 Feb 99, 1000-1200	Fort Monroe, VA
40mm NL Crowd Dispersal Cartridge (40mm NLCDC)	3 Mar 99, 0800-1000	Picatinny Arsenal, NJ
Canister-Launched Area Denial System (CLADS)	3 Mar 99, 1000-1200	Picatinny Arsenal, NJ
Bounding NL Munition (BNLM)	3 Mar 99, 1300-1500	Picatinny Arsenal, NJ
Acoustics	4 Mar 99, 0800-1000	Picatinny Arsenal, NJ
Modular Crowd Control Munition (MCCM)	4 Mar 99-1000-1200	Picatinny Arsenal, NJ
Portable Vehicle Immobilizer System (PVIS)	4 Mar 99, 1300-1500	Picatinny Arsenal, NJ
Ground Vehicle Stopper (GVS)	10 Mar 99, 0900-1100	Quantico, VA
Odorous Substances	10 Mar 99, 1300-1500	Quantico, VA
66 mm Vehicle Launched Non Lethal Grenades (VLNLG)	11 Mar 99, 0900-1100	Quantico, VA

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Non Lethal Rigid Foam (NLRF)	11 Mar 99, 1300-1500	Quantico, VA
Joint Integration Project (JIP)	11 Mar 99, 1530-1630	Quantico, VA
Vessel Stopper Systems (VSS)	17 Mar 99, 1000-1200	Dahlgren, VA
Unmanned Aerial Vehicle – Non Lethal (UAV-NL)	17 Mar 99, 1300-1500	Dahlgren, VA



Joint Conflict and Tactical Simulation (JCATS) Modeling and Simulation Update

Lawrence Livermore National Laboratory has recently delivered JCATS version 1.2 to the 311 Human Systems Wing, Studies and Analysis Division (311HSW/XRS), Brooks AFB, which contains Non-Lethal Weapons enhancements that will allow the modeling of directed energy systems from both ground and air platforms. The Air Force Studies and Analysis Division plans to utilize JCATS to perform several studies beginning this Spring.

The first of these efforts will be a two year study for Air Force Special Operations Command (AFSOC), that will examine multiple scenarios to determine the utility of different types of NLWs in AFSOC mission areas. The first year of the study focuses on airborne platforms and the second year focuses on ground based technologies. Simulation exercises will run from Feb 99 to Feb 01.

Air Force Studies and Analysis Division is also planning JCATS analysis in support of the Air Force Force Protection Battle Lab's ADT Initiative. This will be a three phase initiative serving as a proof of concept for ADT. Phase I is Modeling and Simulation work that will focus on three scenarios: 1) flight line defense 2) Military Operations in Urban Terrain (MOUT), and a 3) Non-combatant Evacuation Operations (NEO). The Force Protection Battle Lab and DBBL will run the scenarios to determine the Rules of Engagement (ROEs) and the Tactics, Techniques and Procedures (TTPs) that will be used in the phase II live force-on-force exercise.

The M&S effort will take place in the April 99 timeframe. The live force on force exercise will take place in the June to July timeframe. The final phase is an actual test of the prototype putting a specified amount of energy at a certain range on a sensor.

They will also conduct a study in support of the ADT program in which scenarios will be run for Air Force Space Command. In addition, JCATS analysis work is planned in support of the Marine Corps' Urban Close Air Support study being headed up by MAWTS-1 in Yuma, AZ.

UPCOMING EVENTS

The following meetings are provided as events, which may be of interest throughout the joint community in the development and fielding of non-lethal weapons.

DATE	EVENT	LOCATION
February 9	Council on Foreign Relations	Washington D.C.
February 10-11	MCCM IPT Meetings	ARDEC, Picatinny, NJ
February 11-12	Director's Reviews	San Antonio, TX
February 15-17	AUSA Winter Symposium	Orlando, FL
February 16-18	NDIA SOLIC Symposium	Arlington, VA
February 22-26	ITRO Meeting	Ft Benning, GA
February 23	Acoustics In-Progress Review	ARDEC, Picatinny, NJ
February 25-Mar 6	PVIS Developmental Testing	Redmond, WA
March 3-4	Director's Reviews	ARDEC, Picatinny, NJ
March 10-11	Director's Reviews	MCB Quantico, VA
March 10-23	PVIS Operational Testing	Redmond, WA
March 17	Director's Reviews	NSWC Dahlgren, VA
March 18-23	MCWL Urban Warrior, AWE-II/Kernel Blitz	Oakland, CA
Apr 23	USA MilDep Brief	Arlington, VA
May 3-6	Force Protection Equip Demo (FPED II)	MCB Quantico, VA

A Quick Look at the History of Non-Lethals

The Non-Lethal Weapons Program has had a brief but exciting history as a DoD initiative. The program first existed as many separate programs under different sponsors; it began to come together under the leadership and guidance of the Office of the Secretary of Defense (OSD); and now the program has been established with the Marine Corps as the Executive Agent.

The advent of an era when the military services were required with regularity to perform Operations Other Than War (OOTW) has led to the need for non-lethal weapons. In early 1995, USMC Lt. Gen. Anthony Zinni was charged with protecting the final withdrawal of UN forces from Somalia and explored the prospects of using NLW. General Zinni asked for a quick response to field a NLW capability. The US Marine Corps and US Army teamed to provide available NLW technology for use in and around Mogadishu. Although the NLW effects were marginal, General Zinni's aggressive support added credibility to the NLW effort. General John J. Sheehan, former USACOM Commander, spoke at the Non-Lethal Defense Conference II that was held in Washington, D.C. on 7 Mar 96. In his speech given at the conference, General Sheehan examined the global requirements for use of non-lethal weapons and emphasized the necessity for those weapons as standard-issue military hardware.

On 9 July 96, DoD Directive 3000.3 was issued. The directive established joint service organizational responsibilities and provided guidelines for the development and employment of non-lethal weapons. The directive designated the Commandant of the Marine Corps as Executive Agent (EA) for the DoD Non-Lethal Weapons Program, with the responsibility of providing "... program recommendations and for stimulating and coordinating non-lethal weapons requirements."

66mm Redesign Effort

During early FY99, the 66mm Vehicle-Launched Non-Lethal Grenades (VL NLG) Program suffered a setback. The program, which had been accelerated from a five-year to a three-year development effort, laid its hopes on modifying an existing L8 grenade design to achieve the stingball blunt trauma and the flash-bang payloads. During Engineering Design and Lethality Testing, the following discrepancies were discovered:

a) The propellant charge necessary to achieve the 100-meter minimum range requirement exceeded the Light Vehicle Obscuration & Smoke System (LVOSS) M7 discharge capacity, which caused fouling of the launcher tubes and erosion of the drain holes. It also caused excessive deformation/stress on the grenade body, which in turn caused inconsistent launch dynamics.

b) If the grenade was launched into a crowd, the large bursting charge required for reliable payload dispersion would likely result in permanent hearing loss. In addition, unexploded grenades could cause severe injury to the head, neck or torso. For these reasons, the Joint Service Requirements Team redirected the program away from the L8 design to an M90 design that utilizes a pusher plate and three cardboard submunition canisters to propel the payloads downrange. This change caused a six-month schedule slip and \$484K cost increase, but the likelihood of its use will significantly increase as a result of its defined target effects. For more information, contact Kevin Swenson.

Director's Review Synopsis

We have successfully completed the fourth round of Director's Reviews, and we would like to thank each of the JNLW Program Managers for

their hard work in developing the briefings. These reviews provided Col Fenton with his first detailed analysis of each of the JNLWP funded efforts. These files are available to Government employees. Template changes for the next round of reviews (Jul/Aug 99) may be submitted to the JNLWD. Contact Kevin Swenson for additional details or to request copies of either the slides or the minutes.

FY00 Program Plan

The Joint Non-Lethal Weapons Directorate and JCIG/IPT working service representatives met on 30 March 1999 at the Directorate to formulate the FY00 JNLWD Program Plan. The funding plan strategy focused on fielding NL capabilities, compressing NLW program timelines, and fully funding near-term acquisition programs where possible. Unfortunately, our program needs exceeded our FY00 budget of \$23.3 million, thus forcing the group to reach a consensus on the funding allocation across the six major program areas of the Joint Non-Lethal Weapons Program. This proposal was approved by the IPT on 18 May 1999.

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JNLWD NEW JOINS

Brad Cobb is detailed to the Directorate from the Naval Surface Warfare Center Dahlgren Division (NSWCDD). At NSWCDD, he was responsible for weapon system safety including topside design, shipboard integration, and operational safety. Brad will primarily be responsible for laser initiatives within the Technology Investment Program (TIP). Brad will also be working with the Concept Exploration Programs (CEP).

Capt Noel Montgomery joins us from the 377th Medical Group at Kirtland AFB, NM, where he was the radiation safety officer and an industrial hygienist. He is now the Chief of Health Effects Assessment and will be the primary point of contact on human effects issues.

Matt Harnad, from the Department of the Navy (DoN), joined the Directorate on 5 April 1999. Matt remains a DoN employee assigned to the JNLW Directorate and will provide security oversight of all functions related to NLW security, including Information Security, Industrial Security, Operations Security, Visitor Registration, Physical Security, facility management, and contractor security compliance.

JNLWD Co-Sponsors FPED II

The Joint Chiefs of Staff (JCS), the Office of the Under Secretary of Defense for Acquisition and Technology (OUSD A&T), the Joint Non-Lethal Weapons Directorate (JNLWD), and the Department of Justice (DoJ) hosted the Force Protection Equipment Demonstration II (FPED II) on 3-6 May 1999 at Marine Corps Base, Quantico, Virginia. The focus of the demonstration was to showcase state-of-the-art and mature commercial off-the-shelf (COTS) components and systems to leaders and decision-makers responsible for Force Protection. For the DoD, equipment identified as possible solutions to field requirements will be prioritized for procurement and testing in FY00.

The JNLWD conducted a scenario-based live fire demo every day on range #305. The live fire demo was conducted once a day and all joint acquisition programs were utilized. FPED II is the first time all joint NL acquisition programs were utilized during an actual demonstration with troops. Special thanks to the U.S. Army Product Manager, Physical Security Equipment (PM-PSE), Fort Belvoir, Virginia, for conducting the event. POC is Capt Simpson.

40mm NL Cartridge (M1006) Milestone III Decision

On 31 March 1999, COL (P) John Urias, the Milestone Decision Authority for the 40mm Non-Lethal Cartridge (formerly known as the Sponge Grenade), signed the Acquisition Decision Memorandum, approving it to proceed into the production and deployment phase. The Non-Lethal Cartridge is approved for Army use, and the USAF is a participating acquisition service. The M1006 Non-Lethal Cartridge will provide friendly forces the capability to stop, confuse, disorient, or momentarily deter a potential threat without using deadly force. It will be used for riot control, policing, and peacekeeping situations. It is fired from the M203 40mm Grenade Launcher, and it is scheduled for Material Release in 4Q99. ARDEC Point of Contact is Percy Mistry, Program Manager Small Arms (PMSA), DSN 880-6283.

HEAP - Blunt Impact Munitions

The Joint Non-Lethal Weapons Directorate (JNLWD) commissioned Pennsylvania State University for the Human Effects Advisory Panel (HEAP). The mission of the HEAP is to provide independent assessment of human effects issues surrounding non-lethal weapons. Their first tasking was to assess the current blunt trauma, human effect characterization methodology used by the services. The final report of the HEAP was delivered to the JNLWD in March 1999. It raises a number of issues that warrant discussion within the services.

The first order of business for the HEAP was to quantitatively define “non-lethal” in the context of non-lethal weapons. The guidance metric that the HEAP recommends is shown in Figure 1. By this definition, a non-lethal weapon could potentially cause no effect in some fraction of the population, while causing permanent injury or death in another. This model is extremely useful in explaining the goal of the Joint Non-Lethal Weapons Program, but one should not use it as a go/no-go test for the acceptability of any specific system.

The HEAP recommended methodologies for generating and presenting data about the human effects of non-lethal weapons. Their recommendation for generating human effects data is to use established bio-statistical techniques and existing models (e.g., clay, gelatin, bio-mechanical surrogates, and animal testing) to develop the most accurate assessment of potential human effects from these weapons. In order to present that data to planners, tactical commanders, and users, three data formats are recommended, as shown in Figures 2 and 3. These formats include cumulative frequency distribution curves (s-curves) and a red, yellow, green display for integration into weapon systems. The DoD Human Effects Process Action Team (HEPAT) will develop a DoD position.

The HEAP was critical of the services’ methodologies for assessing injury from blunt impact munitions because the models used are not validated and do not address a number of likely injury modes. In addition, none of the models used for blunt trauma address the concept of “minimal non-lethal effect.” This information is critical for proper employment of these weapons.

The JNLWD’s position is that fielded weapon systems must be accompanied by a comprehensive package of data regarding health effects to users and bystanders, health hazards to targeted individuals, and weapon effectiveness.

JNLWD point of contact is Capt Noel Montgomery.

Idealized Non-Lethal Weapons

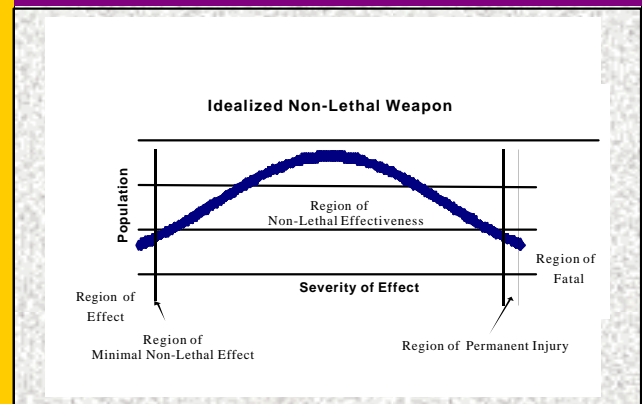


Figure 1 – Planner

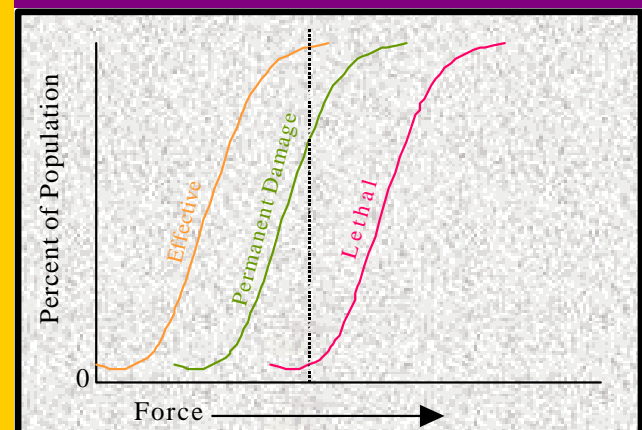


Figure 2 – Tactical Commander

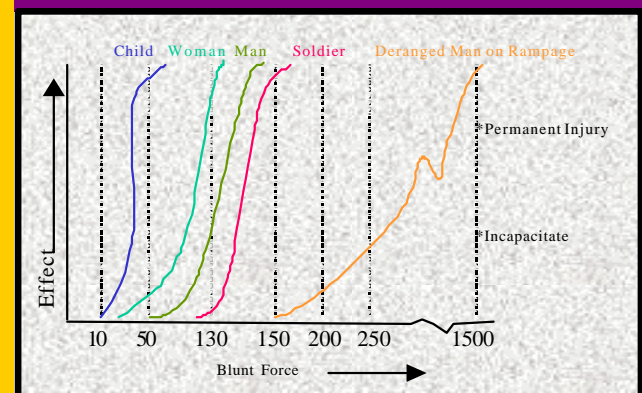
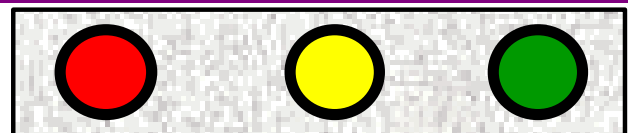


Figure 3 – Tactical User



40mm NL CDC Approved for Milestone I/II

On 19 April 1999, COL (P) Urias approved Milestone I/II for the 40mm NL Crowd Dispersal Cartridge (CDC) program. As the Milestone Decision Authority for non-lethal materiel at the Army Tank-Automotive and Armament Command, COL (P) Urias' endorsement also constitutes approval to enter into the Engineering and Manufacturing Development (EMD) Phase (II). In accordance with a Memorandum of Understanding between the AMC Non-Lethal Materiel Team and the PM Small Arms, upon achieving MS I/II, managerial responsibilities of subject program transition to the latter. This transfer is expected to officially occur during the week of 26 April 1999. The new POC at PMSA is Mr. Percy Mistry, DSN 880-6283.

National Policy Study Status

During the staffing of the Presidential Decision Directive (PDD) on non-lethal weapons, the National Security Council (NSC) requested that a DoD lead National Policy Study be conducted to determine whether a need exists for a national policy on non-lethal weapons. This study has been completed and recommends a three-year program be established and managed by the JNLW Executive Agent to conduct expanded Science and Technology (S&T) and acquisition related activities to address several questions raised by the study. The JNLWD is currently working with the services to develop an expanded program plan for consideration in the PR-01 summer review process.

New TIP Solicitation

The new TIP solicitation is currently open to industry, government, and academia. The Requirements Integration Group (RIG) has developed the solicitation topics, and a Broad Agency Announcement (BAA) was published in the Commerce Business Daily on 15 April 1999. The BAA is focused on two specific areas: 1) Clear Facilities of Personnel, and 2) Disable/Neutralize

Vehicles, Aircraft, Vessels, and Facilities. This solicitation will remain open until June 4th of this year. A one to five-page white paper is required, and if more details are warranted, the submitter will be asked to submit a full proposal. Last year there were eighty-three white papers received, and from that number, sixteen were asked to submit full proposals. From the sixteen full proposals, eight were selected for funding. A copy of the solicitation can be retrieved from the Commerce Business Daily web site at <http://cbdnet.access.gpo.gov/>. A link to this web site is also available from the Joint Non-Lethal Weapons Program web site.

Non-Lethal Weapons Directorate Inventory Database

The Joint Non-Lethal Weapons Directorate Inventory Database is being designed for total asset visibility of non-lethal weapons throughout the services. Information such as item description, quantity, location, stock number, etc: will be readily available to commanders to increase their capabilities and options during a contingency stock operation. The database will incorporate all worldwide non-lethal weapons inventories currently being maintained across the services and consolidate them into a central file. The topic was addressed at the Action Officers Round Table Meeting on 24 March 1999 and was well received. A letter will be released in June that will detail the purpose, objectives, and data required to build this database. If you have any questions regarding this matter, please contact Lisa Bender.

JOINT TRAINING STATUS

The Joint Non-Lethal Weapons Directorate (JNLWD) requested that an Interservice Training Organization (ITRO) study be conducted to determine the feasibility of developing a consolidated interservice course. A Subject Matter Expert (SME) conference was held 19-21 August 1998. At that meeting, service SMEs developed a notional Interservice Program of Instruction based on the Marine Corps-approved POI and recommended a follow-on Quick Look Group (QLG) be convened. The QLG, held 14-16 October 1998 at Quantico, VA,

refined the notional POI, developed training standards, and determined student throughput requirements. In addition, the QLG recommended that a follow-on cost analysis be conducted for the recommended training sites. Service representatives agreed to develop cost data for three potential training locations: Fort Leonard Wood (FLW), MO, Fort Benning, GA, and MCB Quantico, VA. During subsequent staffing, the services reviewed the POI and QLG recommendations and agreed to participate in a follow-on preliminary Detailed Analysis Group (DAG) study. Participants in this preliminary DAG, which included subject SME, produced a preliminary cost analysis report.

Representatives from the Army and Marine Corps participated in the DAG at Fort Benning on 22-26 February 1999. The DAG conducted the analysis under the assumption that their service's student throughput, based on numbers provided during the October QLG, would not significantly change or influence the overall cost computations.

VISION STUDY STATUS

The Joint Non-Lethal Vision Study is well underway, with active participation from all four services. The core study group—which includes a retired three-star general, a former political-military advisor, a professional wargamer, and analysts with operating force experience—have been simultaneously addressing the first two phases of the study, Alternative Worlds and potential US military operations in the future. The Vision is well on track to be presented in late September with a final report to be published in early October. The vision of the Joint Non-Lethal Directorate is to develop a fully integrated and coordinated NLW program and to provide the best NLW technologies and equipment for use by our warfighters. Joint Vision 2010 will introduce four new operational concepts that, taken together, will allow our armed forces to achieve “Full Spectrum Dominance.” Full Spectrum Dominance is defined as the ability to conduct decisive operations across the full range of military operations.

LTG Kern's Semiannual Briefing

On 23 April 1999, the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT) was briefed on the JNLWP and the USA NLW development efforts. The primary topics included: 1) NLW Requirements Generation, 2) Modeling and Simulation, 3) Experimentation, 4) Training, and 5) Physiological and Psychological Effects of NLWs. The following notable issues were discussed:

a) LTG Kern offered USA support in re-energizing the UAV NL Dispensing Capabilities program by questioning and stimulating the USA requirements communities.

b) LTG Kern stated that the USA is embarking on a unique evaluation of Service Modeling and Simulation efforts, and results/recommendations will be vetted through the USA and Defense Science Boards this summer.

c) Concerning USA Experimentation, BG Yakovac challenged the USA to procure operationally significant residuals for the MOUT ACTD that could be provided to USA/USMC units after the demonstration to provide them with significant initial operational capabilities. LTG Kern advised that USA NLW experimentation programs should include an OPTEC evaluation at the end of each experiment.

d) LTG Kern offered support in placing a USA O-5 Executive Director and an O-4 Requirements Officer into the Joint Non-Lethal Weapons Directorate.

The next meeting is planned for early Oct 99.

JNLWD Co-Sponsors NTARS

On 3-5 May 1999, the Joint Non-Lethal Weapons Program, along with the National Institute of Justice and the University of New Hampshire, sponsored a Non-Lethal Technology and Academic Research Symposium (NTARS) at the Marine Corps Research Center, Quantico, Virginia. The three-day symposium began with opening remarks by LtGen Steele and a Keynote Address by the Honorable Senator Robert Smith of New Hampshire. The next three days were filled with presentations from well-known experts in the field of non-lethal weapons.

The presentations were divided among the following sessions: An Overview of Non-Lethal Weapons, Health Issues Involving Non-Lethal Weapons Employment, Law Enforcement Applications of Non-Lethal Weapons, Kinetic Mechanisms and Chemical Materials, Directed Energy as a Non-Lethal Option, Sociological Aspects of Non-Lethal Weapons Deployment, The Visionary Battle Space, and Non-Lethal Weapons: Future Applications and Resources. The Symposium was well received, and the interchange between the researchers and the military and law enforcement community was very beneficial. For more information contact John Basic.

JNLWP MASTER PLAN

A Joint Non-Lethal Weapons Program Master Plan is in the process of being developed to provide program overview, direction, and guidance for the execution of the Joint Non-Lethal Weapons Program in support of *Joint Vision 2010*. It will be a tool for managing the implementation of the vision. It will also be a living, evolving document prepared through the collaborative efforts of the joint community. The contents of this plan, including 21st Century Challenges, Desired Operational Capabilities, and candidate assessment events, will be updated as required. These key elements of the plan will be formally staffed to ensure maximum full coordination.

This Joint NLW Program Master Plan will envision a comprehensive and holistic program that will identify the interrelationships between all non-lethal development activities, including training, doctrine, concept exploration, science and technology, research and development, modeling and simulation, experimentation, requirements generation, and resource management.

This Master Plan for the JNLW Program will provide direction for the DoD non-lethal weapons program. It will do so by utilizing a robust technology insertion program and by managing the development of core capabilities for non-lethal weapons application across the spectrum of military operations. The scope of the Master Plan is necessarily broad. It will address all activities and considerations that apply to the development of non-lethal weapons requirements, capabilities, and procedures.

These considerations are not restricted to operational matters. They will also include policy issues, including some matters relevant to the decision to use military options in the furtherance of national interests. Revisions to the Master Plan will further define relationships of the program activities and more thoroughly identify tasks necessary to ensure a well-developed and coordinated Joint Non-Lethal Weapons Program that achieves its goals and visions.

EDUCATION

Capability Sets

NLW Capability Set components are “explicitly designed and primarily employed to incapacitate personnel or material while minimizing collateral damage to property and the environment.”

System Description: The NLW Capability Set contains the weapon systems, munitions, and equipment needed to support the operational requirement for an enhanced non-lethal capability. Its NLW components are explicitly designed and primarily employed to incapacitate personnel or material while minimizing collateral damage to property and the environment. They are not required to have zero probability of producing fatalities or permanent injuries, but they are designed and employed in a manner that significantly reduces those probabilities over the traditional employment of currently fielded military weapon systems, munitions, and equipment. The components are intended to augment the warfighter and enhance his role in all potential operational environments, specifically in Military Operations Other Than War (MOOTW). It is not intended to replace, but only augment, currently fielded weapon systems and munitions. The NLW Capability Set is intended to be the Armed Forces’ near-term core tactical level non-lethal capability.

Operational Concept: The NLW Capability Set is designed to equip a 200-man company and will provide a range of non-lethal capabilities across the company organization, from the individual warfighter to the Company Commander. The NLW Capability Set is also envisioned to support infantry and non-infantry units tasked with rear area security during major theater wars.

Service Deployment: The Marine Corps NLW Capability Set provides an NLW capability to the Marine Expeditionary Forces (MEFs), for training and contingency operations. Currently, nineteen NLW Capability Sets are distributed among the Ground Combat Elements (GCE) of the three MEFs with six sets going to I MEF, nine sets to II MEF, and three sets to III MEF. Additionally, one set has been provided to the MP Detachment, Ft. McClellan, AL. In addition to the nineteen sets currently fielded, six additional sets are planned for fielding in FY00. The Army plans on fielding their first five sets in FY00, with an additional five sets fielded every year after, reaching thirty sets for their total. Distribution and fielding options being considered include, issuing directly to Army divisions, or to the Army Components Commands of the Combatant CINCs, and/or holding sets in a "Contingency Stock."

Projected Threat Environment: In the future, warfighters will continue to serve in tumultuous environments, and the potential for exposure to the nontraditional battlespace is expected to increase. The ability to apply the appropriate level of force in a controlled, measured manner in a response to a variety of threats will be critical.

Key Components of the NL Capability Sets

Protection Items

- Ballistic* & Non-Ballistic Body, Face, and Shin Shields
- Expandable Riot Batons
- Portable Bullhorns
- High Intensity Search Lights
- Disposable Forearm/Ankle Cuffs
- OC Spray Dispensers

Non-Lethal Munitions

- 12 Gauge Point, Area & Flash Bang
- 40mm Foam, Rubber Ball, & Wood Baton
- 5.56mm Muzzle Launched Area Rounds
- Stun Grenade/Stingball Grenade
- Modular Crowd Control Munition (MCCM)**

Training Items

- Riot Training Suit
- OC Pepper Spray Training System

Other Items

- 12 Gauge Shotguns
- Light Vehicle Obscurant Smoke
- Systems (LVOSS) M-305**
- Portable Vehicle Immobilization System**
- Caltrops
- Resupply Quantity of (OC) Pepper Spray

* Army only

** To be fielded as needed

UPCOMING EVENTS

5-28 May	MOUT ACTD Army Exp #6 Tech Integration	Fort Benning, GA
27 May	LtGen Steele's Retirement Ceremony	Arlington, VA
1-10 June	USA NL MOUT ACTD	Fort Benning, GA
9-10 June	Human Effects Process Action Team	Quantico, VA
18 June	JIP Meeting at HQ TRADOC	Fort Monroe, VA
21-24 June	Int'l Infantry & Small Arms Symposium	Parsippany, NJ
	POM Working Group Meeting	Quantico, VA
	FY00 Experimentation Meeting	Quantico, VA
July-August	Director Reviews	Multi-Locations

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